DOELAP Participant News

December 2004

Solicitation of Support

Robert M. Loesch, DOELAP Administrator
DOE Office of Quality Assurance Programs (DOE/EH-31)

In FY04, the Office of Environment, Safety, and Health (EH) became responsible for the Radiological and Environmental Sciences Laboratory (RESL) upon its transfer from the Office of Environmental Management (EM). RESL is one of two remaining laboratories in the DOE system that is still federally owned and operated. A third laboratory, the Environmental Measurements Laboratory (EML) was transferred to the Department of Homeland Security.

As the parent organization, EH is now responsible for the federal personnel, laboratory facilities, and management of both the DOELAP and the Mixed Analyte Performance Evaluation Program (MAPEP), the latter being conducted by RESL in support of site environmental programs.

EH's vision of RESL is that of a Federal Reference Laboratory that provides cost-effective measurement quality assurance, free of conflicts of interest, for federal oversight of analytical and radiation programs. RESL is recognized by NIST as a secondary laboratory under their Radiation Calibration Laboratory

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Changes to Accredited Programs

Robert Loesch, DOELAP Administrator
DOE Office of Quality Assurance Programs (DOE/EH-31)

Several situations have arisen recently that have led me to believe that some sites may not be aware of their responsibilities when making changes to existing accredited programs.

Some changes by their nature do not affect one's current accreditation status and do not require any action on the part of the facility contractor. These changes may include such things as personnel changes other than key personnel (key being where the quality of the program can be impacted by the loss of that individual's personal expertise), most procedural changes and the termination of dosimetry or bioassay services that are no longer required under 10 CFR 835.

More significant changes may require some actions on the part of the accredited facility to maintain their accreditation status. Such changes include but are not limited to: modifications to dosimeter algorithms, badge types or holder designs; changes in dosimeter processing or radiobioassay (in-vivo or in-vitro) between in-house and commercial vendors or switching between commercial vendors; and the need to add additional categories to an existing accreditation.

When changes (other than minor) need to be made, there are two avenues of approach. First, you can submit a new application and be retested. This would be warranted when switching to a commercial vendor that has not been tested in conjunction with another sites accreditation application (e.g. a newly established vendor), the establishment of an in-house service, or the use of a newly designed dosimeter. The second option is to request a determination of Technical Equivalency in accordance with §6.4.2 of DOE-STD-1111-98, "The Department of Energy Laboratory Accreditation Program Administration", December 1998. The request should include documentation that supports the conclusion that the change is technically equivalent to what was originally accredited. The request should be forwarded through the appropriate DOE field office to the DOELAP Administrator at the

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accreditation program and participates in the NIST Traceability Program for analytical chemistry measurements.

Much money has been (and will be) spent on compensation programs. I believe that programs like DOELAP are a method by which DOE and its contractors can help assure the workers, their families and their unions, that they are being appropriately protected when performing their work assignments. I see DOELAP as helping to prevent or mitigate potential future litigations or compensation programs like that currently being implemented under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA). The National Institute for Occupational Safety and Health (NIOSH) has made a determination that barring other evidence to the contrary, NIOSH would accept as valid the dosimetry data generated by DOE facilities starting at the time they first became DOELAP accredited. This is similar to the acceptance that NVLAP has seen in dose related litigation involving the American Nuclear Insurers and their clients, the nuclear power industry.

The support for the other RESL programs along with the additional FTEs and our responsibility for facility maintenance has increased the EH budget at a time when budgets are shrinking. Headquarters programs are being evaluated carefully as to how they support of the President's Management Agenda, the DOE mission, and their contribution to the safety of workers, the public, and the environment.

To solidify the business case and help ensure that RESL receives the support it deserves as DOE's primary Federal Reference Laboratory, it is more important now than ever before that DOE fully understands the importance of DOELAP to the field and contractor organizations, unions, and DOE's work force. To assist management in setting the appropriate priorities for the future, they need a clear picture of the importance that the DOELAP programs provide to its various customers. Accordingly, I would appreciate receiving letters of support from contractor and DOE field management, indicating their continued support for the DOELAP programs. Specific examples of ways that these programs have supported sites to improve their dosimetry and radiobioassay programs would be particularly helpful. DOELAP is an important tool in helping you to assure a healthy and safe working environment.

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following address:

Robert M. Loesch
DOELAP Administrator
EH-31, GTN, 270CC
1000 Independence Ave., SW
Washington, DC, 20585-0270

with a copy to the appropriate PEPA.

Upon receipt I will review the request and supporting documentation and, where necessary, consult the appropriate DOELAP Oversight Board. All requests are acknowledged in writing as to whether the request has been denied or granted.

It should be noted that changes implemented after an accreditation has been granted and without a receipt of technical equivalency (other than minor changes) may put the program in a state of non-compliance with the requirements of 10 CFR 835. If you are in doubt about any potential changes, contact either your PEPA or me for clarification. I can be reached at (301)903-4443 or by email (robert.loesch@eh.doe.gov).

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New Dual Source Irradiator

Scott Schwahn, Dosimetry PEPA
DOE/ID

Our new dual source irradiator, containing a 20-Ci ^{137}Cs source and a 7-Ci ^{60}Co source, had its Cs component calibrated and first used in test session 2004-A (37). The old ^{137}Cs source was recalibrated at the same time. We plan on calibrating the ^{60}Co source in early 2005 in preparation for using it in a pilot test later in 2005.

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Visit our Calibration Lab

If you find yourself in Idaho, remember that you are always welcome to visit the facilities. Not going to be in the area? Take our new virtual tour of the dosimetry calibration lab and let us know what you think.

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DOELAP Assessor Training

Scott Schwahn, Dosimetry PEPA
Anita Bhatt, Radiobioassay PEPA
DOE/ID

DOELAP Assessor training is scheduled for August 9-11, 2005, in Portland, Oregon. If you are a current assessor for either the dosimetry or radiobioassay programs, please make plans now to attend, as this training is mandatory to retain your credentials as a DOELAP Assessor. Bob Loesch will be announcing his selection of some new assessors soon.

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Neutron Dose Reporting

Scott Schwahn, Dosimetry PEPA
DOE/ID

During the past year, I've received several questions concerning exactly what performance is tested in the neutron categories. The excerpt below from DOELAP Administrative Procedure DO-AP.10, "DOELAP Administrative Activities", Rev. 3, should help clarify what performance is being evaluated.

Section 2.2, "Clarification of criteria in DOE/EH-0027":

2.2.1.5 In straight neutron categories (VI), participants will report deep dose due only to neutrons, as well as total deep dose. The performance evaluation will only be against neutron deep dose, not total deep dose (i.e., photon deep dose incidental from neutron irradiations will not be considered).

2.2.1.6 In neutron mixture categories (III+VI and IV+VI), participants will report deep dose due only to neutrons, as well as total deep dose. The performance evaluation will be against total deep dose, including neutron deep dose, photon deep dose, and photon deep dose incidental to neutron irradiations.

I hope this helps in understanding exactly what we do in these categories. If you still have questions or need further clarification, please give me a call.

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Category IIIB Negative Bias

Scott Schwahn, Dosimetry PEPA
DOE/ID

We have had some pretty strong indications over the last few test sessions that Category IIIB, Pu X-rays (using the ^{241}Am source) has been resulting in a negative bias in performance testing results. After performing extensive research, we have reached the following conclusions:

1. There has been an overall positive bias in the calculated dose of approximately 8.0% in this test category beginning with test session 24 (fall 1997).
2. The positive bias stems from three sources:
    a. The transfer standard R/C (roentgen per coulomb) value given to DOELAP for its 1997 calibration was in error (+3.6%).
    b. There was a -0.8% correction due to ion chamber positioning.
    c. There appears to have been a change in the physical characteristics of the phantom that was being used, the nature of which is still being investigated, which resulted in an error of +5.2%.

For test sessions 24-37, a correction in dose of -8.0% for this category will need to be made. The correction will already be included for data presented in test session 38, due later this month. DOELAP will not be issuing new data reports – you should make the appropriate corrections in your archived data reports. The uncertainty term (E) will also need to be increased by 2.2% (k=2), added in quadrature, for any corrections made.

As you can see, the bulk of the error appears to be the result of an as yet unexplained phenomenon related to phantom composition and the energy of the source being used for irradiations. Since the C_x values are specified in ANSI/HPS N13.11, the additional research being performed may find that it will be necessary to modify the phantom specifications in future standards.

While it is difficult for me to tell you of this necessary correction, this should not impact your confidence in DOELAP. Although traceability to a national standard for ^{241}Am is not currently available in the United States,

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DOELAP Shipping Address

Some folks are still using an old DOELAP shipping address. Please note the correct addresses below:

Mailing address:

US Department of Energy
Idaho Operations Office
1955 Fremont Avenue
MS-4149
Idaho Falls, ID 83401-4149

Shipping Address (including overnight letters):

US Department of Energy
Idaho Operations Office
DOELAP Program
INEEL/CFA-690
Lincoln Blvd & Albany Ave
Scoville, ID 83415-4149

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Radiobioassay Pilot Tests

Anita Bhatt, Radiobioassay PEPA
DOE/ID

RESL will be initiating two radiobioassay pilot test programs in 2005. One will be a thyroid phantom pilot test that will assist us in implementing Category VII for Direct Radiobioassay. The other pilot test we will be conducting is one for low level actinides in urine.

Related, but not necessarily a pilot test, is one involving DOELAP's ^{241}Am lung sets. The DOE Phantom Library is interested in obtaining one of DOELAP's lung sets (7nCi and 20 nCi) that were previously used in testing as an addition to the library. In addition to our original performance testing data, we would like to give sites the opportunity to count the lung set thus adding to the data set used to establish its documentation. Upon completion of this test session, the lung set and supporting data will be transferred to the Phantom Library to be made available to the bioassay community.

If you are interested in participating in any of these special test sessions, please let me know so I can make sure that you receive the proper notification when we are ready to begin.

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with the assistance of the National Physical Laboratory in the United Kingdom DOELAP was successful in identifying a small error in the transfer standard's R/C factor that was provided to us and also identified a potentially more important phantom effect that has been previously unknown but which could impact future ANSI standards.

Research continues on the phantom issue and more information should become available in the near future.

Should you have any concerns, please feel free to call me directly.

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Use of Commercial Vendors

Robert Loesch, DOELAP Administrator
DOE Office of Quality Assurance Programs (DOE/EH-31)

Many of you utilize commercial vendors as a service provider associated with your DOELAP accreditation. The duration of the accreditations being 2 years for the External Dosimetry DOELAP and 3 years for the Radiobioassay DOELAP. The awarding of a particular accreditation indicates that the commercial vendor has demonstrated a level of quality as specified in the associated DOELAP standards.

But what about the quality of vendor services between accreditations? The Personnel Dosimetry Handbook (DOE/EH-0026, page 29, "Quality Assurance", item 8) requires that QA programs include external checks of the dosimetry processor to include blind-audit dosimeters. The Radiobioassay Standard (DOE-STD-1112-98, page A-8, "Quality Assurance", item 3) requires that DOELAP participants conduct an annual audit of their service provider to assure that the servicing laboratory maintains established levels of quality and adheres to criteria in the servicing contract.

When an audit program indicates an area of concern with a particular commercial vendor, the accredited site is expected to take timely action to resolve the issue. However, should the problem be indicative of a broader issue that has the potential to affect the services provided to other DOE customers, the site should contact their Performance Evaluation Program Administrator by email with a copy to the DOELAP Administrator. It is left to the judgment of the individual accredited sites to determine (on a case by case basis) which issues could have potential ramifications on the quality of measurements and worker safety. If in doubt, we'll be glad to discuss your particular issue with you.

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The HQ and RESL DOELAP staff would like to wish each of you and your families the warmest of holiday greetings and the safest of new years.